Juab County

The "Key" County of Utah

Juab County Center
160 North Main
Nephi, Utah 84648

August 16, 2000

Automated Geographic Reference Center
Attn: Dennis Goreham, Manager
5130 State Office Building
Salt Lake City, Utah 84114

Dear Dennis:

Juab County is pleased to submit the enclosed application for the Utah Rural Government Geographic Information Systems 2000 Assistance Program.

Funds that we have received in the past has provided much needed assistance to our county and is greatly appreciated. We have worked very hard to acquire accurate data and build our GIS capabilities. We believe we have a very good start on this system. The monumentation and coordinate help we are requesting with this application will be extremely helpful to moving this system forward.

We appreciate the opportunity to submit this application and look forward to hearing from you regarding it. Thanks again for your part in providing resources to the counties of Utah.

Sincerely,

Wm. Boyd Howarth
Chairman
Juab County Board of Commissioners

Juab County

Application for the Utah Rural Government Geographic Information Systems 2000 Assistance Program.

PROPOSAL SUMMARY

Intent

This focus of this project will be to establish additional section corners within Juab County and to get accurate coordinates on existing and the new corners. For approximately 20 years Juab County has been working on a monumentation program to reestablish or establish section corners within the county. This work has been done under contract by a local engineering firm. This effort has largely focused on the more populated areas of the county where the greatest need exists. The need to continue monumentation still exists and the need for accurate coordinates is paramount. If funding is received under this program Juab County will purchase some limited equipment, continue placement of new corner monuments, and immediately begin the process of securing accurate coordinates on monuments.

Statement of Need

Juab County is largely relying on paper maps and hand drawn maps for much of the needed maps for the County. Each office basically creates and maintains, on paper, the additional information necessary for that particular office. This is a very inefficient and outdated method.

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Project Description

This project includes the purchase of some hardware and software. By far the major purpose for the project is to secure accurate coordinates on established corner

monuments and to place additional monuments with accurate coordinates to allow the county to have confidence on the accuracy of GIS data and provide quality data for it's own purposes and for sharing with others.

Contact Information

Main contact person:	Glenn Greenhalgh - Computer Coordinator	435-623-3400
Collaborators	Craig Sperry - County Recorder/Surveyor	435-623-3430
:	Wm. Boyd Howarth - Commission Chair	435-623-3407
	Michael J. Seely - Commission Assistant	435-623-3408

Benefit to the State and Other Participants

Combining and coordinating our data with existing State and other data will be advantageous to the State and many other organizations. The State and other users will be given additional and a more accurate collection of coverages to enhance the State data bases. State Parks, the Forest Service, BLM and other Canyon Country Partnership participants will be given access to our generated data. Utility companies seeking rights of way through our County will be able to use this information to plot pathways for utility lines and pipes.

The data will be shared openly with cities, other counties, and the public. Cities will be encouraged to establish GIS capability with training and assistance from the County. Other government agencies, landowners, business owners, title searchers, and other interested parties will also have access to the data.

Project Budget

Description	Price each	Quantity	Total Cost
Set New Corner Monuments & Coord.	$150	100	$15,000
Coordinates on Existing Corners	$40	300	$12,000
Reestablish Lost Corners	$250	15	$3,750
Digital Camera	$700	1	$700
ArcView	$849	1	$849
Purchase New Monuments	$20	250	$5,000

Total	$37,299
Grant Request	$20,000
Match	$17,299

Project Time Frame, Benchmarks and Products

This project will begin as soon as grant monies are received. The scope of this project will be completed by June 30, 2001. We anticipate having coordinates on 75 corners by December 1, 2000 with another 225 completed by the end of this project. We will have 50 additional corners set by December 1, 2000 and 50 more by the end of the project. The end of the project will reestablish all of the lost corners that require survey work.

Conclusion

Juab County is excited about integrating GIS with other county functions. We are anticipating positive results from the communities and within County Departments. Juab County is committed to continuing with GIS and maintaining GIS data so that it is accurate, usable, and sharable. The grant funding will provide us with the means to further our goal of implementing our GIS Program. Juab County understands the future is GIS technology and the future is NOW!

Juab County GIS Implementation Plan

Updated August 15, 2000

Introduction

Juab County is a relatively small county in terms of population, per capita income, etc.; however, it is a relatively large county in terms of geographic area. This large area versus small population makes it difficult for Juab County to adequately fund issues such as GIS implementation, RS2477 mapping, etc. In spite of this challenge the County has been successfully pursuing the implementation of technology, including GIS, for several years. The County has also been working on a monumentation program for many years.

Recently Juab County conducted an assessment that looked closely at the following:

- Existing data, methods, and resources.
- Additional data needed.
- Potential GIS users

To date GIS efforts have been focused on roads, wilderness, planning, and related activities. We have utilized data received information from Central Utah Water Conservancy District, UDOT, AGRC, and others as we have worked to build our program including the Juab County General Plan. As we have reviewed our current activities it became obvious that we need to continue to expand our program and to try and be more "all inclusive." This plan clearly demonstrates our ongoing and solid commitment to do so.

This plan has been prepared under the direction of a committee organized by the Juab County Commission and includes representation from the following County departments:

- County Commission

  Administrative Assistant
- Attorney
- Data Processing
- Economic Development
- Extension
- Planning and Zoning
- Recorder

- Surveyor
- Road Department
- Weed Department

Organizationally, the GIS program can be considered a section within the existing data processing department of the County. The GIS program needs staff, additional computer hardware, GIS software, and ongoing funding. To make GIS meet the needs of the County, changes in how data is collected, managed, and distributed are being made. There are some needed additions in the way of hardware and software. Also, existing map data will needs to be converted to GIS. Staff will need training on how to use GIS to insure accurate and free dissemination of data.

The development of an integrated GIS will allow the county to eliminate manual systems, increasing productivity, as well as providing more complete and accurate data. This system will provide many benefits that would not otherwise be possible.

The GIS system, in many ways provides an entirely different way of doing work within a County. GIS technology is increasing productivity, reducing the cost of doing work, improving accuracy of County data, aiding in better decision making, and helping maintain the value of information. Over the life of the system, a GIS can help realize thousands of dollars in productivity gains. Additionally, a GIS allows a County to perform specific analysis that otherwise would be very difficult. Setting up a County's GIS is a significant and complex undertaking that requires a high level of cooperation between departments and users of the GIS.

Current Activities and Inventory

A few years ago Juab County worked with AGRC to review existing road maps and identify which roads the County believed were RS2477 roads. This exercise quickly identified the need to do a more complete inventory of RS2477 roads within the County. We have also received information from UDOT, Soil Conservation District, BLM, Forest Service, CUP and others to establish a base of existing information from which to start. This was done to utilize existing resources and data, and to minimize duplication. During this time Juab County has purchased AutoCAD ©, AutoCAD Map 2000 ©, Arcad ©, ArcView ©, a 36 by 48 digitizing tablet, and a Hewlett Packard DesignJet 750C plotter (with the postscript module added). The County has also some dedicated computer hardware for the GIS effort.

The focus of current efforts has been road centerline, wilderness, planning, and severely limited development of a parcel layer for some specific areas of the County. Juab County has been working on a monumentation program for 20 years. We now have approximately 400 corners set. We need to expand this monumentation

program and get accurate coordinates on the corners. This data is essential as we move toward developing a full parcel layer for the County.

Much of the hardware and software necessary was purchased through the fiscal 2000 grant program, however, we still have some additional needs. We have identified the need for a laptop computer, a digital camera, and at least on additional copy of ArcView © software.

We have made significant progress on road and public land issue data. We still have significant needs relative to the parcel layer and coordinates on corner monuments. Our work has clearly demonstrated weaknesses that can be addressed by establishing monuments and accurate coordinates for these corners. This corner work is part of our overall GIS strategy.

The following items were identified as problems with the current maps and mapping methods.

- Maps are out of date. Due to the amount of information being maintained, and the number of maps, when a map is finished and available, the information may not reflect actual conditions.
- Coordinate data is not available for corners.
- Maps do not show enough detail. The information represented on the map does not show all of the features or descriptive information that may be needed.
- Maps are of limited availability. Due to the effort required to get a current copy or set of maps, having the information available when it is needed is difficult.
- Maps are in manual form. Retrieval of information from paper maps is slow and the performance of special purpose or complex analyses are limited or impossible.
- Map scales are inconsistent or inadequate. With inconsistent map scales it is difficult to analyze changes between maps or to overlay two different maps such as parcels and roads.
- Maps are difficult to access. Information is housed in different locations requiring "foot work" to find and retrieve needed information.
- Manual links between maps and the tax-roll. Manually associating tax-roll information with the appropriate maps is time intensive and inefficient.
- Maps are nonexistent. Many maps that would be useful (e.g., detailed topography, existing utilities etc.) are nonexistent at adequate scales within the County.

Agencies and groups contacted

6 County AOG

- AGRC
- BLM
- Central Utah Water Conservancy District
- Forest Service
- Soil Conservation District
- State Department of Agriculture
- Utah Association of Counties
- Utah Department of Transportation
- Utah Power
- Grazing Permit Holders

  Mining Companies

Goals and Objectives

We believe that the entity closest to the resource is the best entity to collect and maintain GIS data. We also believe in the sharing of data and the use of a clearinghouse. Therefore, an objective of the Juab County GIS Program is to establish a seamless GIS system for use by each county office within Juab County, other agencies, and the general public with accurate data that can be easily accessed and shared. We strongly believe that it is necessary to eliminate as much duplication as possible while maintaining high standards of accuracy and compatibility.

The goals of our GIS effort include the following:

- Establishing layers for our GIS system including:
  - ✓ Corner coordinates
  - ✓ Roads and Highways
  - ✓ Wilderness Proposals
  - ✓ Addresses
  - ✓ Noxious Weed
  - ✓ Parcels
  - ✓ Planning
  - ✓ Structures
  - ✓ Signs
  - ✓ Utilities
  - ✓ Water Bodies

- ✓ Water Courses
  We have acquired several of these layers from AGRC and others. We will do limited "ground-truthing" of these files to ensure accuracy.

- Use existing established standards in all areas of the system.
- Improved maps for use within the County
- Ease of data sharing with Cities and other entities in Juab County.
- Document what really exists "On-the-Ground."
- Two way sharing of data with other interested parties.
- Provide easy access to data by public and private parties.
- Provide accurate easy-to-use data to decision makers.

Implementation Plan

The implementation of a GIS system for county government is a difficult and complex undertaking. GIS is not simply a project to be completed, it is a new way of looking at things and a new way of doing many things. GIS is very quickly becoming essential to County functions. Consequently, it will be set up over time and require on-going funding which the county will provide. This implementation plan outlines our plan to insure that this GIS program is sustainable and successful in Juab County.

Juab County has made significant progress toward implementing GIS technology. It has shown recognition for the benefit and commitment to implementing this technology. With grant funding to add the necessary parts of the plan and proper training the county will be able to carry the program forward for the long-term. The county has demonstrated its commitment, by utilizing dollars and other resources, and will remain committed to this program

Top priorities will be corner monumentation with coordinates, roads, highways, wilderness, and planning followed closely by parcels, noxious weeds, and the other layers. We realize this is a long-term commitment and are dedicated to making that commitment.

The data will be made available to AGRC within the time frames outlined and shared with others very shortly thereafter. The county does have an Internet Site that will host the data once completed. The site will have to be enhanced some, however, that will be accomplished during data gathering phases of the project.

All data will meet 1:24,000, or better, accuracy requirements (Geospatial Positioning Accuracy Standard, Part 3, National Spatial Data Accuracy Standards) and be compliant with the National Digital Geospatial Metadata Content Standard. The draft Canyon Country Partnership Transportation Data Model will be used to attribute all features appropriate for model. We will continue to utilize AGRC personnel to assist us in understanding and implementing these standards.

As initial data is collected it will be shared with AGRC for review to insure compliance with standards. We will work closely with AGRC throughout the process to insure accuracy and acceptance. Also summary reports of progress will be provided as needed.